

PREDICT Outbreak Rapid Report

Today's Date: March 8

Cumulative day of the outbreak investigation: 26, PREDICT involvement 6 days

Working Title of Investigation: Human_Encephalitis_Bangladesh_Faridpur_Pabna_2017

Please describe the disease signs and symptoms and species affected (humans, domesticated animals, wildlife:

On 2nd of March, the PREDICT team was notified that there were three human encephalitis cases that were suspected to be Nipah virus by the Director of the Institute of Epidemiology, Disease Control & Research (IEDCR). The government has not officially announced the outbreak to be Nipah virus, but under the assumption that it may be Nipah virus, IEDCR is conducting an outbreak investigation in the two areas with cases, Faridpur and Pabna (approximately 100 km apart). As the reservoir for Nipah virus is flying foxes (*Pteropus* bats), IEDCR requested PREDICT to provide assistance in wildlife sampling and domestic animals sampling (if needed). No ill domestic or wild animals have been noted to be associated with these human cases.

All three patients have a history of drinking raw date palm sap (which is known to be associated with Nipah virus transmission) and had symptoms of encephalitis. Two of the patients died, the third is recovering.

<u>Location</u>	
Country:	Bangladesh
District:	Faridpur and Pabna
Village/Town:	Joy kali Dangipara, Saltha, Faridpur Uttar Roghubari, Pabna Sadar, Pabna
GPS Coordinates (if known):	Pabna 24.0730, 89.2503 Faridpur (23.495, 89.785)
Date that first case(s) of illness occurred (if known or estimate):	February 11 and 13, 2017
Date that PREDICT was first notified of outbreak:	March 2, 2017

Key Information	Description of Findings/Actions/Outcomes
How many affected individuals?	Human: Suspected <u>9</u> Confirmed <u>0</u> Deaths <u>2</u> Domestic animal: Suspected <u>5</u> Confirmed <u>0</u> Deaths <u>2</u> Wild animal: Suspected <u>3</u> Confirmed <u>0</u> Deaths <u>3</u>
How was outbreak first noticed?	All three cases were detected through ongoing Nipah virus surveillance at hospitals.
Where was the first reported case? What is/was the extent of geographic spread? Include comments on the apparent speed of spread.	The first two cases were reported in Faridpur and Pabna. The locations are far enough apart to be considered separate outbreaks. Faridpur is part of the so-called "Nipah belt" and has annual cases. Pabna has not previously reported Nipah virus cases. At this time, all suspected cases of Nipah virus are attributed to drinking raw date palm sap – which is essentially a direct transmission event from flying foxes to humans. No human-to-human transmission has been reported as of yet.
Has the country requested support from PREDICT (include date of request)?	The Director of IEDCR invited PREDICT to support the animal investigation component of this outbreak on March 2, 2017.
If so, which government agency requested PREDICT support?	Institute of Epidemiology, Disease Control and Research (IEDCR) and One Health Secretariat of Bangladesh under Ministry of Health and Family Welfare,



	Government of the people's Republic of Bangladesh.
When was PREDICT response initiated (date)?	March 3, 2017
Are other EPT partners involved in the response (which ones and how)?	At this time, no other EPT partners are responding to this outbreak.
What type of assistance did PREDICT initially provide? Which PREDICT personnel were involved?	<p>PREDICT assisted with recommendations for the animal investigation component and sent a small team to collect samples from bats in Faridpur.</p> <p>The PREDICT team in Faridpur includes one veterinarian, and two field technicians.</p> <p>The PREDICT team in Pabna includes three field technicians and one scientist.</p>
<p>When was the first official acknowledgement of the outbreak (by which government agency or other reputable body and date)?</p> <p>When was a response initiated and by whom? Which agencies were involved? Who was in charge of the national response?</p>	<p>The outbreak has yet to be officially acknowledged, and participation was invited on the assumption that this could be a Nipah virus outbreak.</p> <p>The response was initiated by the Director of IEDCR on March 2, 2017. In this outbreak response, the Ministry of Health & Family Welfare and icddr,b are involved in the response. A joint team of epidemiologists from IEDCR and icddr,b are in the field investigating the human cases. US CDC Field Epidemiology Training Bangladesh Fellow is also with the team in the field. Icddr,b will also be involved as a PREDICT lab partner to support preliminary testing from animal samples. Prof. Dr. Meerjady Sabrina Flora, Director, IEDCR is in charge of the national response.</p>
<p>Was the cause of the outbreak confirmed by a laboratory?</p> <p>If so, give details, including cause, species, specimen types tested and dates of testing if known.</p>	The etiology of outbreak is suspected based on symptoms and relevant clinical history, and confirmatory laboratory testing is on-going.
Where was the laboratory testing performed (name of laboratory)?	IEDCR for the human samples, icddr,b for PREDICT animal samples. Laboratory testing at icddr,b will be specific PCR for Nipah virus, then paramyxovirus family testing, followed by the other priority viral families.
Number of days between initiation of government response and lab confirmation of laboratory results.	Confirmed diagnostic results from the Government of Bangladesh have not been released.
Summary of the Outbreak:	<u>To be filled after active outbreak activity has ceased</u>
Working name of the outbreak (e.g., Yellow Fever – DRC)	
Total number of cases:	<p>Human: Suspected <u>9</u> Confirmed <u>0</u> Deaths <u>2</u></p> <p>Domestic animal: Suspected <u>5</u> Confirmed <u>0</u> Deaths <u>2</u></p> <p>Wild animal: Suspected <u>3</u> Confirmed <u>0</u> Deaths <u>3</u></p>
Summary of PREDICT Team response activities during the outbreak.	Will provide at the end of outbreak activities.



PREDICT Response Timeline

Working Title of Investigation: *Human_Encephalitis_Bangladesh_Faridpur_Pabna_2017*

Key Events:

Date	Day #	Notification or Action Taken
February 11	1	First case retrospectively identified in Pabna
February 13	3	First case retrospectively identified in Faridpur
March 2	20	First notification to PREDICT team of possible Nipah outbreak
March 2	20	CC notification to PREDICT lead partner
March 2	20	Notification from PREDICT lead partner to PREDICT leadership
March 2	20	Notification from PREDICT leadership to USAID
March 3	21	Permission to engage in initial outbreak response and assessment of budget implications full engagement
March 5	23	PREDICT field team was dispatched to conduct surveillance in flying foxes. The team in Faridpur conducted initial reconnaissance, visited the sites where the human cases were reported, identified flying fox roosts and described the ecological characteristics, counting bats, identifying the species, calculating the distance between the roosts and the homes. The team in Pabna will conduct reconnaissance tomorrow.
March 6	24	The team in Pabna conducted initial reconnaissance, visited the sites where the human cases were reported, identified 4 flying fox roosts within a 10km radius and described the ecological characteristics, counting bats, identifying the species, calculating the distance between the roosts and the date palm trees. The team in Faridpur identified 3 bat roosts within a 10km radius of the case houses. The Faridpur team collected 6 roost urine and 20 non-invasive fecal samples. Both team will collect biological specimens tonight.
March 7	25	<p>The team in Pabna collected 13 roost urine and 13 non-invasive fecal samples from two bat roosts. The team surveyed for fruit trees within the 0.5 km radius of the home of the suspected case to identify bat feeding sources. Considering the season, date palm trees were the most abundant, there are very few other fruit tree species available for the flying foxes .</p> <p>The Faridpur team collected 27 roost urine and 37 non-invasive fecal samples from two different bat roosts. The team also observed bats feeding on fruit trees and consuming date palm sap. The team collected swab samples from a sapodilla fruit that was partially eaten by bats.</p> <p>Both team will collect biological specimens tonight from bat roosts nearby the outbreak sites.</p>
March 8	26	<p>The Faridpur team collected 27 roost urine and 29 non-invasive fecal samples from two different bat roosts. The team also observed bats feeding on fruit trees and consuming date palm sap. The team collected an additional 8 swab samples from sapodilla fruits that were partially eaten by bats.</p> <p>The team in Pabna collected 27 roost urine and 27 non-invasive fecal samples from a bat roost.</p> <p>The IEDCR/icddr,b team leading the investigation in people at Pabna identified a suspect case at a house near to one of the original cases' home. At this new case's house, there was a history of a recent bird die-off (3 captive doves and 2 chickens died) at the household, the neighbors also reported some deaths in poultry, but did</p>

	<p>not specify the number of birds that died. Six people in the household have ILI symptoms and are being tested for both Nipah (which can cause ILI symptoms) and influenza. The lead of the IEDCR/icddr,b team requested that the PREDICT team sample the poultry at the case house and surrounding households. The PREDICT team collected oropharyngeal and cloacal swabs from 26 chickens and 4 ducks; of the poultry, one duck had clinical signs of illness and the other birds were apparently healthy. The team also visited a local live bird market where the people in the household regularly purchase and sell chickens and collected 3 offal and 7 environmental samples. The PREDICT team also collected two oral swabs, blood samples and rectal swabs from each of two sick street dogs that were close to one of the original cases' houses.</p> <p>Both team will collect specimens tonight from bat roosts nearby the outbreak sites</p>
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